UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/702,422
Filing Date: November 05, 2003
Appellant(s): ENGLER ET AL.

Kenneth Crimaldi, Reg. No. 40,968
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 08/28/2007 appealing from the Office action mailed 05/11/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

EP 0490565 A	Mattox	6-1992
WO 95/00019	Payne	1-1995
EP 1060667 A2	Kostansek et al.	12-2000

5332442	Gerigk et al.	7-1994
4,906,274	Mattox	3-1990

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1 and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattox (4,906,274, '274 from hereon) in view of Mattox (EP 0,490,565 A1, '565 from hereon) in view of Payne et al. (WO 95/00019).

'274 discloses compositions containing 0.1-99.9% of 3-isothiazolones (including DCOIT), 0.1-99.9% of an orthoester stabilizer and 0-99.8 % of an organic solvent. See col 1 lin 4-35, lin 60-col 2 lin 45. '274 discloses many uses of the composition including its use as a preservative in aqueous dispersions and coating emulsions (e.g. paints). See col 3 lin 29-47 and col 4 lin 21-66. Additional stabilizers including copper salts can also be employed, while '274 is silent on the amount of copper the patent incorporated by reference US pat No. 3,870,795 which states "generally, the metal nitrate or nitrite is used to stabilize the isothiazolone solution in an amount of about 1 percent to about 30 percent" within applicants claimed range. See col 3 lin 15-28 of '274 and col 1 lin 65-col 2 lin 10 and col 3 lin 25-39 of US 3,870,795.

'274 does not disclose the amount of water in the aqueous dispersion or coating emulsions contemplated for use nor does '274 mention the use of the exact inorganic fillers of dependent claim 4, emulsifiers and thickeners.

'565 discloses isothiazolone concentrate compositions comprising a) 0.01 to 50 parts of 3-isothiazolone (including DCOIT), b) 0.0001 to 10 parts copper salt and c)

optionally 40 to 99.9899 parts organic solvent including di-glycols; '565 also discloses compositions containing from 0.01 to 30 weight of the a-c composition above in water with an emulsifier. See page 2 lin 41-page 3 lin 49, examples part 3 and claims 1-3 and 10. Regarding the limitation that the composition contains at least one inorganic filler, '565 in example 3, a paint formulation, lists the use of Ti-Pure R-902 a known titanium dioxide pigment used in coatings as evidenced by the teachings of DuPont's product brochure on titanium dioxide products used in coatings (cited in last action). While '565 does not mention kaolin in the description or examples, kaolin is simply a mineral found in clay and '565 does disclose the use of Attagel 50 a known clay material, therefore it is obvious that Attagel 50 clay will contain kaolin. It would have been obvious to one with skill in the art that since aqueous isothiazolone compositions of '565 were disclosed as having from 0.01 to 30 weight of isothiazolone, organic solvent and copper salt that the aqueous applications contemplated for use in '274 could also use the same amount of the above ingredients in the aqueous dispersions disclosed. One with skill in the art would have a reasonable expectation of success in combining the concentrations of ingredients in an aqueous composition disclosed in '565 with the ingredients of '274 because the patents are generally related as being drawn to the same general field of endeavor, isothiazolone biocide compositions and the patents share several of the same ingredients such as DCOIT, solvents and copper salts. The broad concentrations of isothiazolone, organic solvent and copper salt in '274 and the amount of those ingredients used in aqueous applications as disclosed in '565 meets applicants claimed weight percents for those ingredients by combination.

Payne is used primarily for the disclosure within that thickeners such as Xanthan gum were useful in aqueous compositions containing 3-isothiazolone as a biocide, the composition was said to be useful as a preservative in paint. Xanthan gum was said to aid in suspension of particulate matter, reduce sedimentation and increase viscosity. See abstract, page 1 lin 6-36, page 2 lin 19-37, page 4 lin 3-10 and claims 1-2.

It would have been prime facie obvious at the time of the invention to a person of ordinary skill in the art to modify the 3-isothiazolone composition disclosed in '274 and add the inorganic fillers and surfactants of '565 and the Xanthan gum thickener disclosed within Payne. It is generally considered to be prime facie obvious to combine compounds each of which is taught by the prior art to be useful for the same purpose in order to form a composition that is to be used for an identical purpose. The motivation for combining them flows from their having been used individually in the prior art, and from them being recognized in the prior art as useful for the same purpose. There is also clear motivation for the skilled artisan to combine the thickener in Payne with the compositions of the Mattox references '274 and '565 to aid in the suspension of particulate matter, reduce sedimentation and to adjust the viscosity of the composition. One with skill in the art would have a reasonable expectation of success in combining the above references since they are all related in the same field of endeavor and their composition makeup is very similar in that they all disclose aqueous 3-isothiazolone biocide compositions. The advantage of such a composition as already disclosed above would be that the particulates would be suspended, there would be less sedimentation within the composition and the viscosity could be adjusted by simply adjusting the

amount of thickener. Also the use of thickener as disclosed by Payne would reduce the amount of organic solvent necessary, a distinct advantage since there is increasing demand to decrease the use of volatile organic compounds in all industries. As shown by the recited teachings, instant claims are no more than the combination of conventional components of biocide compositions useful in preserving paint products. It therefore follows that the instant claims define prime facie obvious subject matter.

Claims 1,3-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattox (4,906,274, '274 from hereon) in view of Mattox (EP 0,490,565 A1, cited by applicant, '565 from hereon) in view of Payne et al. (WO 95/00019, cited by applicant) in view of Kostansek et al. (EP 1,060,667 A2, cited in last action) and in view of Gerigk et al. (US 5,332,430, cited in last action). This new rejection was necessitated by amendment.

'274 is disclosed above. '274 is silent on the method to produce the compositions by dissolving DCOIT in solvent before addition of the other ingredients and is silent on melting DCOIT before addition of the other ingredients. '274 does not disclose the amount of water in the aqueous dispersion or coating emulsions contemplated for use nor does '274 mention the use of the exact inorganic fillers of dependent claim 4, emulsifiers and thickeners.

'565 is disclosed above and is combined with the main reference '274 in the same manner.

Payne is disclosed above and is combined with the main reference '274 in the same manner.

Kostansek is used primarily for the disclosure within that the method of melting an active (biocides are specifically mentioned), before addition of the other ingredients was already well known in the art at the time of the invention. Kostansek is also used for the disclosure within that the melted active can also contain a solvent that it is soluble in, thus meeting the limitation of claim 10. See abstract, [0002]-[0005],[0008]-[0011] and claims 1-3. The disclosed advantage of producing a suspension concentrate of a biocide in this manner was that the method produced small particles. It was disclosed that the efficiency of the pesticides (species of biocide) is often related to the size of the pesticide particle, typically the smaller the particle the greater the efficiency due to factors such as increased release rate and wider and more uniform coverage upon application.

Gerigk is used only for the disclosure that paint systems containing biocides may contain fillers such as kaolin. See col 1 lin 49-col2 lin 7, col 4 lin 64-col 5 lin 22.

It would have been prime facie obvious to a person of ordinary skill in the art at the time the claimed invention was made to combine the art described in the documents above because as above the combination of '274, '565 and Payne discloses all of applicants claimed invention except for the use of kaolin and applicants claimed procedure to make the composition as in claim 10. However Kostansek discloses the same method to make the composition and Gerigk discloses the use of kaolin in paint formulations. The motivation to combine the above documents would be a method to

produce an aqueous DCOIT composition by melting/dissolving the biocide prior to addition of other ingredients. The advantage of this methodology would be that the biocide particles produced are small, thus increasing the release rate and providing more uniform coverage of the biocide upon application. One with skill in the art would have a reasonable expectation of success in combining the above references since they are all related in the same field of endeavor and their composition makeup is similar in that they all disclose suspensions containing biocides. Thus, the claimed invention, taken as a whole was *prima facie* obvious over the combined teachings of the prior art.

(10) Response to Argument

35 U.S.C. 103(a) rejections over Mattox (4,906,274, '274 from hereon) in view of Mattox (EP 0,490,565 A1, '565 from hereon) in view of Payne et al. (WO 95/00019)

Appellants assert that the disclosed range within '274 is so broad that it encompasses a very large number of possible distinct compositions that presents a situation analogous to the obviousness of a species when the prior art broadly discloses a genus as in M.P.E.P. § 2144.05(I). Appellants assert the references disclose broad ranges, but do nothing to suggest the particular combination claimed by appellants and one skilled in the art would need to chose from among the very large number of possible combinations in the references to produce the present claims. Appellants further assert that the examiners argument made in the advisory action is not correct because the examiner did not consider the ranges described in '274 or the other references to be so broad as to be a genus of applicants claimed

invention. Appellants assert that the example the examiner disclosed within the advisory action on particle diameter ranges to illustrate a genus verses species type of situation where an overly broad range "100 mm-0.1nm" cannot read on a narrow range (1-100 nm) is not broader than the percentages of '274.

The examiner notes the passage within the M.P.E.P. § 2144.05(I), but the examiner disagrees that this passage applies for this current situation. The 274' reference discloses a broad range of concentrations for the ingredients because the amounts of the ingredients are optimized for the desired end product. Numerous end products are contemplated for use in 274' therefore it would be obvious to one skilled in the art to optimize the concentrations of the ingredients to achieve the desired properties of the end product. Here in its entirety is the list of potential applications contemplated within '274 found at col 4 lines 21-39 for the disclosed organic stabilizers, "disinfectants, sanitizers, cleaners, deodorizers, liquid and powder soaps, skin removers, oil and grease removers, food processing chemicals, dairy chemicals, food preservatives, animal food preservatives, wood preservation, paint, lazures, stains, mildewcides, hospital and medical antiseptics, metal working fluids, cooling water, air washers, petroleum production, paper treatment, paper mill slimicides, petroleum products, adhesives, textiles, pigment slurries, latexes, leather and hide treatment, petroleum fuel, laundry sanitizers, agricultural formulations, inks, mining, nonwoven fabrics, petroleum storage, rubber, sugar processing, tobacco, swimming pools, cosmetics, toiletries, pharmaceuticals, chemical toilets, household laundry products,

diesel fuel additives, waxes and polishes and many other applications where water and organic materials come in contact under conditions which allow the growth of undesired microorganisms". Thus it would appear obvious that since biocide containing compositions have so many known uses one with skill in the art would adjust the amounts of ingredients for the composition determined by its intended use. Since the ranges disclosed within '274 and the other references overlap appellants claimed ranges a prima fascia case of obviousness has been established. A prima facie case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art. E.g., In re Geusler, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997); In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (CCPA 1976); In re Malagari, 449 F.2d 1297, 1202, 182 USPQ 549, 553 (CCPA 1974). It is the normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages. See In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980) ("[D]iscovery of an optimum value of the result effective variable in a known process is ordinarily within the skill of the art." See, e.g., In re Baird, 16 F.3d 380, 29 USPQ2d 1550 (Fed. Cir. 1994); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In re Paterson Appeal No. 02-1189 (Fed. Cir. January 8, 2003). Regarding appellants assertion that the examiners example is not broader than '274 and the other references, the example contemplated by the examiner was only for illustrative purposes to show a case in which the examiner would find that a reference essentially discloses a genus so broad in its cited range it

cannot reasonably read on a narrow range. The ranges of the particles for the generic teaching were so much broader than the references range (on the order of 10^6) that it would essentially be a genus. The examiner stands by his assertion that he doesn't believe the ranges disclosed by '274 are so broad that they would essentially be a genus of appellants claimed range. The ranges within '274 are broad because there are numerous contemplated uses for the compositions so the ingredients could be varied over a wide range depending on the desired end product.

35 U.S.C. 103(a) rejections over Mattox (4,906,274, '274 from hereon) in view of Mattox (EP 0,490,565 A1, '565 from hereon) in view of Payne et al. (WO 95/00019) in view of Kostansek et al. (EP 1,060,667 A2, cited in last action) and in view of Gerigk et al. (US 5,332,430, cited in last action)

Appellants repeat the above arguments in their entirety over '274, '565 and Payne. Appellants further assert that the paint systems of Gerigk typically contain biocides in much lower amounts, typically PPM levels.

The examiners remarks above in their entirety are incorporated herein as well. Regarding applicants assertion that Gerigk compositions typically contain low amounts of biocide, Gerigk is a secondary reference used only to show that fillers such as kaolin were well known to be useful in paint systems and on its own does not have to meet all of applicants claimed limitations.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

James W. Rogers, Ph.D.

Examiner

AU 1618

Conferees:

Michael Hartley

Sreeni Padmanabhan